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EP 0352372 A

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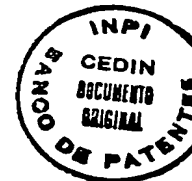
US 3846867 A

(58) Field of Search

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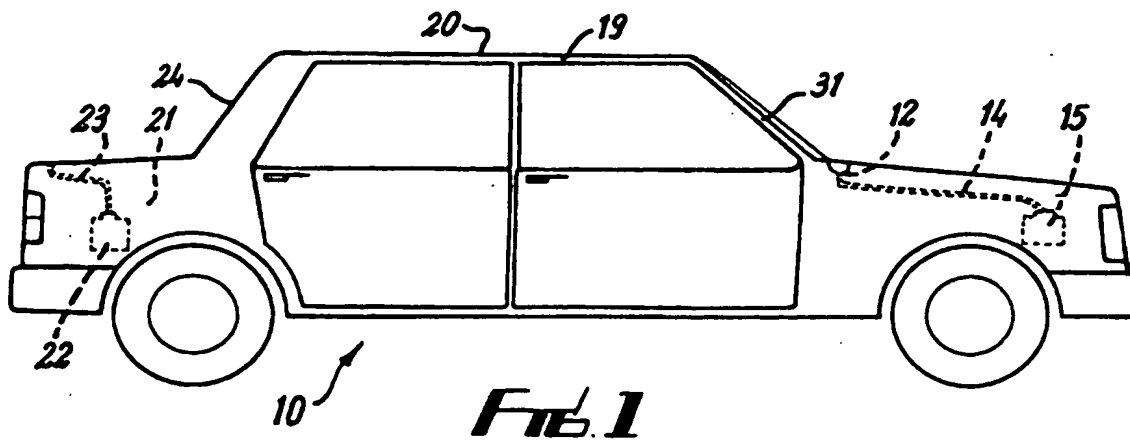
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ONLINE DATABASE: WPI



(54) Rainwater collection arrangement for vehicles

(57) A motor vehicle 10, has a container 15 which receives through inlet 14 rainwater which falls on the windscreen and is received in channel 12. The container 15 may form part of a washer system for the windscreen. A container 22 in the boot may receive rainwater that has fallen on rear window 24 and this container 22 may also form part of a washer system for the rear window. The container may be associated with a headlight washer system. The container may be removable to allow the collected water to be used for other purposes such as washing the car.

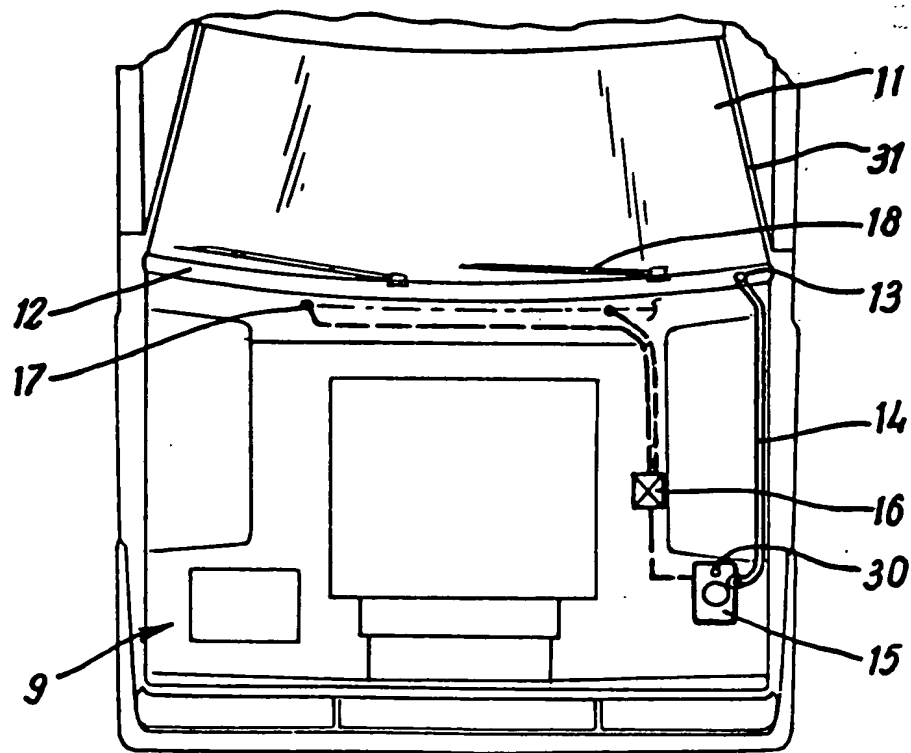
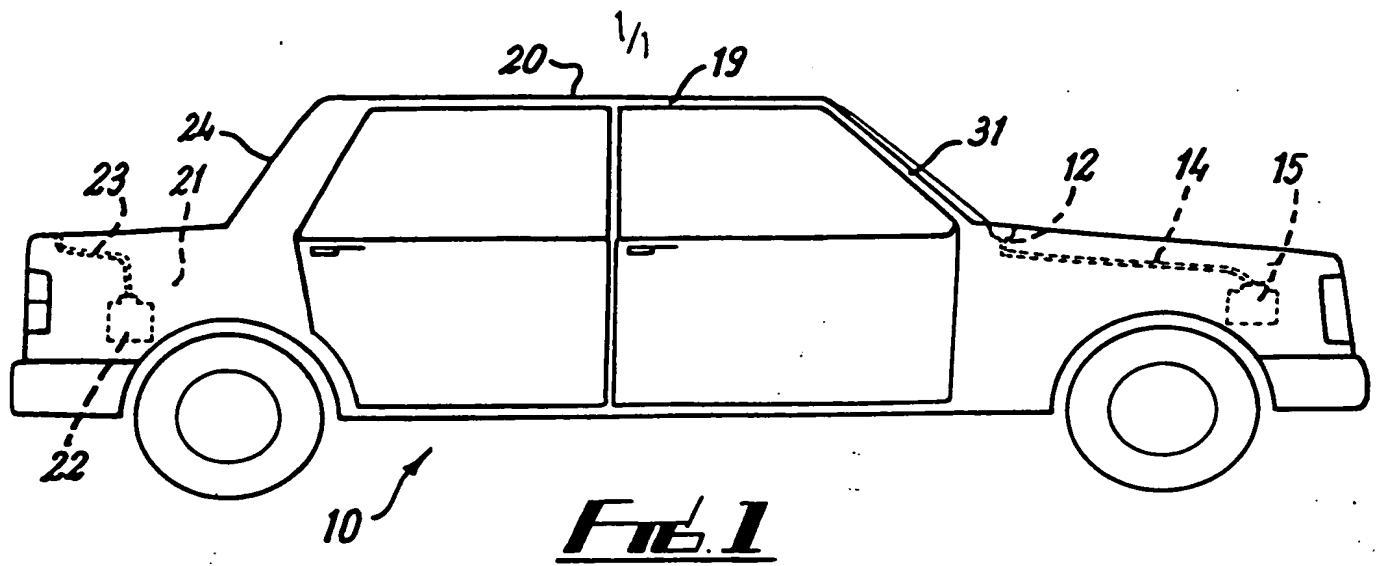


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IMPROVEMENTS IN OR RELATING TO VEHICLES

THIS INVENTION relates to vehicles, particularly but not exclusively to motor vehicles.

According to this invention a vehicle comprises means for collecting rainwater which has fallen on the vehicle.

5 The collection means may comprise a collecting vessel and an inlet conduit to the vessel for the rainwater. The inlet conduit may have an inlet associated with a collecting channel beneath a windscreen of the vehicle.

10 The vessel may form part of a windscreen washer system.

 There may be a vessel for collecting rainwater which falls on a rear window. This vessel may be associated with a washer system for the rear window. This vessel may be located in a boot of a motor vehicle and receive rainwater from a channel at an upper
15 edge of the boot or lower edge of the rear window.

 The collecting vessel or other vessel may be associated with a washer system for lights e.g. headlights.

 The invention may be performed in various ways and one

specific embodiment with possible modifications will now be described by way of example with reference to the accompanying drawings, in which:-

Fig. 1 is a side view of a car;

5 and Fig. 2 is a plan view of a front part of the car with part omitted.

10 A motor vehicle 10, for example a car as shown, has means for collecting rainwater which falls on the vehicle. The car 10 has a front windscreen 11 and along the lower edge of the windscreen 11 is a channel or sill 12 into which flows rain which has fallen on the windscreen 11. An outlet 13 in the lower face of the channel 12 is connected to a tube 14 which leads to a collecting vessel 15 which is in the engine compartment 9 and is removable so that the collected water can be used, for example for washing the car.

15 Preferably the vessel 15 forms part of a system for washing the screen 11 including a pump 16 for draining water from the vessel 15 and projecting it as jets from nozzles 17 on to the screen. The car has windscreen wipers 18 as is conventional.

20 Alternatively, or additionally, rain may be collected through appropriate outlets located in gullies 19 along the sides of the roof 20, or from other locations in the car.

For example in the car boot 21 there may be a further collecting vessel 22 collecting rainwater through tube 23 from an inlet

in a gully on the side of the boot, which receives rain which has fallen on the rear window 24. If the rear window has a washer wiper system the vessel 22 can be the water source for that system, with an optional manual inlet.

5 The tube 14 can be removed from vessel 15 and from a coupling sealed in the outlet 13. Tube 23 can be removable.

10 The vessel 15 has a manually operable inlet 30 for separate supply of water. If the vessel 15 becomes full because of considerable rain, the tube 14 fills and the excess rainwater can overflow the channel 12 and fall to the ground.

 The arrangement provides a saving of purified water from the mains with attendant reduction of cost.

 A removable filter e.g. paper may be located in the neck of the vessel 15 to remove particles.

15 Rainwater collected in sills 19 may flow through a pipe inside the window pillar 31 at front or rear to the relevant collecting vessel.

20 The collecting vessel or vessels and pipes may be incorporated during manufacture of the vehicle or may be added to an existing vehicle in which latter case some or all existing outlets from channel 12 or other source are preferably closed off.

CLAIMS

1. A vehicle comprising means for collecting rainwater which has fallen on the vehicle.

2. A vehicle as claimed in Claim 1, in which the means for collecting comprises a collecting vessel and an inlet conduit to the vessel for the rainwater.

3. A vehicle as claimed in Claim 2, in which the inlet conduit has an inlet associated with a collecting channel beneath a windscreen of the vehicle.

4. A vehicle as claimed in Claim 2 or Claim 3, in which the collecting vessel is adapted to receive rain from a roof gully of the vehicle.

5. A vehicle as claimed in any preceding claim, in which the vessel forms part of a windscreen washer system.

6. A vehicle as claimed in any preceding claim, comprising a vessel for collecting rainwater which falls on a rear window.

7. A vehicle as claimed in Claim 6, in which the vessel is associated with a washer system for the rear window.

8. A vehicle as claimed in Claim 6 or Claim 7, in which the vessel is adapted to receive rainwater from a roof gully of the vehicle.

5 9. A motor vehicle as claimed in any of claims 6 to 8, in which the vessel is located in a boot and receives rainwater from a channel at an upper edge of the boot.

10. A vehicle as claimed in any of claims 1 to 9 in the form of a motor vehicle.

10 11. A motor vehicle substantially as hereinbefore described with reference to and as shown in Figs. 1 and 2 of the accompanying drawings.

Relevant Technical Fields

- (i) UK Cl (Ed.M) B7B (BPG, BPC) A4F (FAMA, FAMD, FAK)
 (ii) Int Cl (Ed.5) B60S 1/46, 1/48, 1/50, 1/56, 1/58; B60R
 13/07

Databases (see below)

- (i) UK Patent Office collections of GB, EP, WO and US patent specifications.
 (ii) ONLINE DATABASE: WPI

Search Examiner
 PAT EVERETT

Date of completion of Search
 6 MAY 1994

Documents considered relevant
 following a search in respect of
 Claims :-
 ALL

Categories of documents

- X:** Document indicating lack of novelty or of inventive step. **P:** Document published on or after the declared priority date but before the filing date of the present application.
Y: Document indicating lack of inventive step if combined with one or more other documents of the same category. **E:** Patent document published on or after, but with priority date earlier than, the filing date of the present application.
A: Document indicating technological background and/or state of the art. **&:** Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages		Relevant to claim(s)
X	EP 0352372 A	(AMBROS) Note tank in roof for collecting rainwater for front screen	1, 2, 5, 10
X	US 4874198 A	(DAIMLER-BENZ) Note tank 5	1-3, 10
X	US 3892439 A	(DAIMLER-BENZ) Example of use of rainwater for washing lamps	1, 10
X	US 3846867 A	(BRYANT)	1, 2, 10
X	DE 3243173 A	(SANDER) Note gutter 8 and reservoir 4	1-3, 5, 10
X	DE 2700926 A	(FISCHER)	1-3, 5, 10

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